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Attorney's Docket No.: 06618/414001/CIT2945

REMARKS

Claims 1-21, 23-26, 29-30, and 32 are now pending, with claims 1, 2, 5, 7, 15, 18, 19, 20, 26, 27, 29, and 31 being independent. Claims 27-28 have been cancelled without prejudice by this response. Claim 19 has been amended. No new matter has been added. Reconsideration and allowance of the above-referenced application are respectfully requested.

Allowable Subject Matter:

Claims 2, 3, 5-7, and 20 have been allowed. Claims 10-14 have been indicated as allowable. The indication of allowable subject matter is acknowledged and appreciated. These claims are retained.

Interview Summary:

Examiner Nguyen is thanked for the interview, which was conducted with Applicants' representative, Mr. Hunter, on April 18, 2006. During the interview, claims 9, 18, 19, and 25, and the Nishino et al. reference (3D Object Modeling Using Spatial and Pictographic Gestures) were discussed. Agreement was reached as follows: (1) the current rejection of claim 9 should be withdrawn since the proposed extension of Nishino is not

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supported by evidence; (2) the current rejection of claim 25 should be withdrawn since the proposed extension of Nishino is not supported by evidence; and (3) the current rejection of claims 18 and 19 would be overcome if an amendment to clarify the meaning of "3d-strokes of shape" is made.

Rejections Under 35 U.S.C. 103(a):

Claims 1, 4, 9, 18-19, 26-30, and 32 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Nishino et al. (3D Object Modeling Using Spatial and Pictographic Gestures). This contention is respectfully traversed.

Nishino describes a system that interprets gestures to control preprogrammed shapes. For example, figure 11 of Nishino shows how preprogrammed shapes (i.e., shape primitives) can be combined and deformed to create a composite shape. "As the figure shows, [objects] are produced by combining the three operations (primitive shape creation, blending and deformation) in a quite straightforward manner." (See Nishino at page 56, col. 2, lines 3-9.) Thus, Nishino describes a 3D modeling process that starts with one or more primitive shapes, which are then combined and deformed as desired.

In contrast, the present application describes a modeling process in which multiple individual shapes are defined by hand

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movements (in a virtual reality environment) at each of a plurality of intervals, and these individual shapes are added to the three-dimensional modeled surface being formed. Thus, a complex surface can be formed by a series of individual strokes, which are summed together to form a surface in a manner that may be considered analogous to the way pencil lines come together on a page to form a drawing. Nishino does not, in any way, teach or suggest this subject matter.

Independent claim 1 recites, "forming a three-dimensional modeled surface by adding shapes defined by hand movements at each of a plurality of intervals, wherein an added shape comprises a surface region formed from sampled positions of a hand movement in the virtual reality environment during at least one of said intervals." (Emphasis added.) The Office Action acknowledges that Nishino does not teach a shape adding operation performed "at each of a plurality of intervals", but then goes on to suggest that this would have been obvious, without providing any evidence to support this contention. Moreover, the Office Action asserts that the claimed "a plurality of intervals" can be interpreted as different stages of forming a complex object in Nishino. Reconsideration of this assertion is respectfully requested since neither the present

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specification, nor the dictionary definitions of "interval" and "stage" support this interpretation of the claim language.

Since the Office Action acknowledges that an element of the claim is not taught by Nishino, and provides no evidence of a motivation to create this element, a *prima facie* case of obviousness has not been established. Relying on common knowledge or common sense of a person of ordinary skill in the art without any specific hint or suggestion of this in a particular reference is not a proper standard for reaching the conclusion of obviousness. See *In re Sang Lee*, 277 F.3d 1338, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002). If the Examiner is relying on personal knowledge to support a finding of what is known in the art, the Examiner must provide an Affidavit or Declaration setting forth specific factual statements and explanation to support the finding. See 37 CFR 1.104(d)(2) and MPEP 2144.03(c).

In view of the above, independent claim 1 should be in condition for allowance. Dependent claims 4 and 9 should be allowable for at least the above reasons. In addition, the current rejection of claim 9 should be withdrawn, as agreed in the interview. Furthermore, claim 4 recites, "using an incremental technique to take an existing mesh of samples and changing it to add a new sample." (Emphasis added.) Nishino

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describes combination and deformation of preprogrammed shape primitives, not incrementally changing a mesh of samples by adding a new sample. The Office Action suggests that Nishino describes incrementally shaping an object "through its samples" (see the Office Action at page 4), but fails to address the claimed feature of adding a new sample. Thus, the rejection of claim 4 should be withdrawn for at least this reason.

Independent claim 18 recites, "tracking a position of a user's hand; forming a three-dimensional modeled surface based on said position of said user's hand at different times; wherein said forming comprises using the hand to create 3d-strokes of shape; further comprising displaying a trace of the path of the hand, sensing at least 7 of the hand's degrees of freedom for the purposes of shape creation, said degrees of freedom including the hand's position and orientation in space, along with degrees of freedom that are affected by the hand's posture." (Emphasis added.) The Office Action acknowledges that an element of the claim is not taught by Nishino (see the Office Action at page 5) and provides no evidence of a motivation to create this element. Thus, a *prima facie* case of obviousness has not been established, and the rejection of claim 18 should be withdrawn. Furthermore, independent claim 18 should be in condition for allowance.

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Independent claim 19 has been amended to clarify: "each 3d-stroke of shape comprising a plurality of points created in 3d-space by motion of the hand, the plurality of points defining the 3d-stroke of shape." In view of this amendment, and as agreed in the interview, the rejection of claim 19 should be withdrawn. Furthermore, independent claim 19 should be in condition for allowance.

Independent claim 26 recites, "forming a three-dimensional modeled surface by adding shapes defined by hand movements at each of a plurality of intervals, wherein the added shapes comprise surface meshes including vertices placed in a three-dimensional space of the virtual reality environment according to the tracked hand shapes." (Emphasis added.) With respect to "at each of a plurality of intervals", the rejection of claim 26 should be withdrawn for reasons similar to those discussed above in connection with claim 1. Moreover, the rejection of claim 26 fails to address the wherein clause of the claim. Thus, the rejection of claim 26 is clearly deficient.

In view of the above, independent claim 26 should be in condition for allowance. Dependent claim 32 should be allowable for at least the above reasons.

The rejection of claims 27-28 has been obviated by the cancellation of these claims without prejudice.

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With respect to independent claim 29, the Official Action acknowledges that Nishino does not teach "using said new shape to apply deformations to said first shape; and displaying said first shape as deformed by said new shape", and the Office Action provides no evidence of a motivation to create this element. The cited portions of Nishino (regarding the formation of complex blended shapes) is not relevant to the claimed subject matter since Nishino does not teach or suggest that the blending of shapes can itself involve deformation, but rather describes blending followed by deformation. Thus, a *prima facie* case of obviousness has not been established.

In view of the above, independent claim 29 should be in condition for allowance. Dependent claim 30 should be allowable for at least the above reasons.

Claims 8, 15-17, 21 and 23-25 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Nishino in view of Brody et al. This contention is respectfully traversed.

On its face, Brody does not appear to be a proper reference under 35 U.S.C. 103(a) because the date given on the face of Brody is 2005. The present application claims the benefit of priority under 35 U.S.C. 119(e) to U.S. Provisional Patent Application No. 60/118,196, filed February 1, 1999. Thus,

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without conceding the propriety of the Examiner's position, the claimed priority date is relied upon to remove the Brody reference as prior art. In view of the above, the rejection of claims 8, 15-17, 21 and 23-25 should be withdrawn.

Furthermore, the subject matter of these claims should be allowable for at least reasons similar to those addressed above. For example, the subject matter of claims 16 and 17 is clearly not described by Nishino.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific issue or comment does not signify agreement with or concession of that issue or comment. Because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

It is respectfully suggested for all of these reasons, that the current rejections are overcome, that none of the cited art teaches or suggests the features which are claimed, and



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therefore that all of these claims should be in condition for allowance.

Therefore, a formal notice of allowance is respectfully requested. In the absence of such, the undersigned requests a telephone interview to discuss the claims and the Nishino reference.

Please apply the one month extension of time fee and any other necessary charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: April 28, 2006

  
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